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Cold Spring Harbor Symposia on Quantitative Biology. Volume XXX. *Sensory Receptors*. Cold Spring Harbor, NY, 1966. The Biological Laboratory. Pp. xiv + 649. Price \$15.

A HUNDRED AND FORTY or so sensory physiologists from the USA, and seven each from Britain, Germany and the rest of the world, gathered together to hear the best symposium on sensory receptors for many years. The actual papers are mostly flag-waving operations which summarize recent progress by groups of workers whose leaders the speakers are. They are none the worse for that, because original articles often lack introduction or reference to wider implications. The collected papers which comprise this book form an excellent summary, at final honours or research student level, of the mechanisms of mechanoreception, hearing, vision, olfaction and chemoreception. The interaction between anatomical and purely physiological work is apparent and to be applauded. Much of this material will find its way into the textbooks of sensory physiology over the next few years. For the specialist this is a book which must not be missed.

G. A. HORRIDGE

Contraceptives. Which? New revised Supplement. London, 1966. Consumers' Association. Pp. 96. Price 10s. (available only to *Which?* subscribers).

THIS SECOND EDITION brings up to date test results, brand comparisons and best buys in contraceptives; it also gives more information about the newer methods—oral contraception and, in particular, intrauterine devices which with the introduction of modern types have come into particular prominence during the past year.

In the notice in these pages* of the first Supplement, published in September 1963, attention was drawn to the high failure rate of condoms and the ineffectiveness of some of the chemical spermicides. In the former case there

has been a considerable improvement since the publication in 1964 of a British Standard; this has been met by all the brands now listed though only thirteen bear the Kite mark to show that they have been manufactured and tested to the Standard. It is encouraging to note, however, that these thirteen include all those brands most widely obtainable, as the licence to use the Kite mark is issued to manufacturers by the British Standards Institution only if a continuous process of testing is carried out.

There appear still to be a large number (59) of chemical contraceptives which are not proved to be harmless or acceptable, though the report states that there is evidence that more of these are now efficient spermicides. Details are given only of the more widely available brands which have passed tests on both counts.

The report concludes with a list of Family Planning Association Clinics the number of which has risen by nearly 200 since 1963. This continuing expansion is of particular importance in the light of the directive to Local Authorities contained in the Ministry of Health circular issued in February 1966.

The increasing public discussion on contraception must engender a greater demand for knowledge and informed advice and the appearance now of this revised Supplement is opportune.

F. B. S.

Humphries, Barry. (Compiler). *Bizarre*. London, 1965. Elek Books. Pp. 240. Price 63s.

IT IS SELDOM that a book has been so aptly named. The compiler is certainly an individualist and is prepared to stimulate the reader by shock tactics. It is by way of being a well produced scrap-book and perhaps the author's suggestion that it will find its place on the family book-shelf between Pear's Cyclopaedia and Mrs. Beeton should not be taken too seriously. The illustrations match the text (in their extreme strangeness and unconventionality).

With the present-day feeling about censorship,

* See THE EUGENICS REVIEW, April, 1964, 56, 2-3.

it is perhaps salutary that the boundaries of expression should be explored in printed books of this type, although the revolution in what can or cannot be written about is shown even more forcibly in the rather more serious periodicals. For instance, in the *Sunday Times* and in the *Observer* within the past few weeks, there have been articles both on abortion and contraception, subjects which would certainly not have been touched on even a few years ago in the serious Sunday papers.

There is no doubt that the compiler has explored a wide range of bizarre subjects, from extracts from the works of Sacher-Masoch to unsophisticated verse allegedly by Mrs. G. C. Coxhead.

Perhaps it cannot be recommended as a "coffee-table" book but it is well worth acquiring and perusing nevertheless.

D. ROBERTSON-RITCHIE

Kendrew, J. C. *The Thread of Life*. London, 1966. Bell. Pp. 112. Price 21s.

THIS BOOK IS based on a series of television lectures and we can therefore expect it to be well organized and explicit, which it is indeed. Kendrew begins with the orderliness of the molecules of the α -helix in the protein hair and concludes with the orderly array of subunits in virus particles. He deals simply but fully with nucleic acid, describes neatly how the messenger RNA carries the genetic information from the chromosome thread to the mechanism which synthesizes enzymes and other proteins, and has a stab at explaining how each different cell of the body knows when to act upon appropriate parts of the instructions contained in the genetic code. Although there is no mention of some of the outstanding problems, such as the function of the different degrees of polymerization of the RNA, or the reason why some animals have ten times as much DNA as their close relatives, this is an excellent account of the newly grown subject which we know as molecular biophysics. Reading it invigorates one with the excitement of new discovery. Every layman who wishes to understand the action of the chromosomes and genes is recommended to buy this book for his own.

G. A. HORRIDGE

Smith, Samuel Stanhope. *An Essay on the Causes of the Variety of Complexion and Figure in the Human Species*. Edited by Winthrop D. Jordan. Cambridge, Massachusetts, 1965. The Belknap Press of Harvard University Press. (London, Oxford University Press.) Pp. lvii+285. Price 48s.

THE PURPOSE OF this book is to preserve—in a very elegant form—a treatise written in 1787 and enlarged in 1810 by Samuel Stanhope Smith when President of the College of New Jersey, now Princeton University.

The essay itself was written in an endeavour to reconcile the two violent extremes of thought which existed at that time: on the one hand the growth of intellectual and scientific thought and on the other the "inflexible and literal orthodoxy" of committed churchmen. The interest of the essay is thus historical, but a long and illuminating introduction by the editor greatly enhances the value of the book to the contemporary reader. The origin of human "races" is always an interesting subject and to trace the various theories, hypotheses—and plain guesses—which have held sway since men seriously considered the matter make for quite fascinating reading.

Addenda are included in the form of "Remarks on certain strictures" which the original essay received and an appendix on the American Indian together with an adequate index.

C. W. USHER

Vox Sanguinis (May/June, 1966. Vol. 11, No. 3). *Tissue Typing*. A Symposium organized by the International Society of Blood Transfusion at the Xth Congress of the European Society of Haematology, Strasbourg, 23rd–28th August 1965. Edited by Jean Dausset. Pp. 257–392.

TISSUE TYPING HAS made rapid strides in recent years and all interested in this subject will be grateful for the opportunity to study a collection of papers, each by an expert in the field. The papers, read in Strasbourg in 1965, were given by specialists who had recently attended a meeting, including a workshop, on Histocompatibility Testing in Leiden. A full

account of the Leiden meeting was later published by Munksgaard in the Series *Haematologica*. In *Vox Sanguinis* there appear summaries of the workshop held at Leiden together with a considerable amount of additional information. This number of *Vox Sanguinis* and the publication by Munksgaard are complementary to each other so that the reader will need both.

The papers in *Vox Sanguinis* deal with many aspects of tissue typing giving a very balanced view of recent advances together with limitations that still exist in our knowledge of the subject. Those who were present at the Strasbourg meeting may be sorry that the interesting discussion which followed each paper has been omitted, while one would have also thought that such a useful work merited stronger binding than that which it receives as a single copy of a journal. Apart from these minor criticisms, however, one can find nothing but praise for this most useful publication.

K. L. G. GOLDSMITH

World Health Organization. *Basic and Clinical Aspects of Intra-uterine Devices*. Report of a WHO Scientific Group. Technical Report Series, No. 332. Geneva, 1966. Pp. 25. Price 3s. 6d.

THIS REPORT SUPPLEMENTS the one recently issued on *Clinical Aspects of Oral Gestogens*.^{*} Together they give a complete and up-to-date assessment of the two newest methods of fertility control.

After discussion, the Scientific Group decided that the term "Intra-uterine Device" would be used throughout this report and recommended its universal adoption, with the suggested abbreviation IUD.

Intra-uterine devices in themselves are, of course, not new but it is only recently that their safety and reliability have been satisfactorily demonstrated. This has led to a widespread and steady increase in their acceptance, and over the last four years the number of women using the devices has risen from a few thousand to over a

million. Many questions, however, remain unanswered and even the mechanism of action is not known with certainty. Available evidence contradicts many of the theories that have been put forward—such as the blocking of sperm, prevention of ovulation, and establishment of a chronic inflammatory reaction. But on the other hand there is evidence, particularly in primates, that the devices increase tubo-uterine mobility and thus speed the transport of the ova through the Fallopian tubes, so that they arrive prematurely in the uterus.

The devices do not appear to cause more than transitory inflammatory changes of the endometrium in most women and no carcinogenic action has yet been demonstrated, but studies extending over fifteen to twenty years, with adequate controls, will be needed before a definite evaluation can be made.

A Table (page 17) summarizes the "Cumulative rates of events to end of first year per 100 first insertions by type of device" and shows undesired pregnancies, expulsions, removals for medical reasons, and pelvic inflammatory disease in a series representing more than 260,000 woman-months of uninterrupted use. It is concluded that the method can be used successfully by nearly three out of every four women who adopt it. The most common side-effects are bleeding and pain which account for two-thirds of the removals. Removals because of side-effects are indeed the biggest problem associated with IUDs; the Group hope that "As women and medical practitioners gain greater confidence in the method some improvement can be expected". Active pelvic inflammatory disease, and pregnancy, are the only definite contra-indications. The management of women wishing to use intra-uterine contraception is explained and suggestions are made for research on improvements in devices and on methods for detecting them in utero.

World Health Organization. *Chemistry and Physiology of the Gametes*. Report of a WHO Scientific Group. Technical Report Series, No. 333. Geneva, 1966. Pp. 23. Price 3s. 6d.

RESEARCH IN THE biology of animal germ cells and of their roles in fertilization and embryonic

^{*} Technical Report Series, No. 326. See *THE EUGENICS REVIEW*, 1966. 58, 118.

development has gained considerable impetus during the past two decades: the increasing world food shortage has stimulated interest in ways of increasing productivity in food-supplying animals, and the treatment of sterility and the control of fertility in human beings have been recognized to be major problems.

This report summarizes present knowledge of germ cell biology, with particular reference to mammals, and gives a list of problems most urgently in need of further investigation: more research should be undertaken on the morphogenesis of the gonads, especially in primates; spermatogenesis offers numerous possibilities for the research worker, including the cytological study of spermatozoa; the biology of the Sertoli cells; the effects of ageing on the germ cells and consequent effects on fertility; the genesis of abnormal spermatozoa, their fertilizing capacity and methods of treating abnormal spermatogenesis; the maturation of spermatozoa in the ductus epididymis is incompletely understood, as are the mechanisms leading to auto-immunization against spermatozoa. Particularly intriguing is the biological significance of seminal plasma with reference to the survival, transport, capacitation and fertility of spermatozoa.

With regard to oogenesis, a better understanding of the arrest of oocyte development at the diplotene stage and of follicle growth and atresia might lead to methods of foretelling the time of ovulation in human beings. In vitro studies of maturation, fertilization and early development of mammalian eggs should be pursued. The many factors that may influence fertilization in vivo are still poorly understood, and the activation of the egg at fertilization offers many fascinating research problems. Factors that affect the formation and activity of DNA codes, their transcription to RNA codes, and the translation of RNA codes in the synthesis of specific proteins will clearly have a profound effect on embryonic development, and much work is needed before these basic processes can be understood and the hazards to normal development evaluated.

World Health Organization. *Immunological Aspects of Human Reproduction.* Report of a

WHO Scientific Group. Technical Report Series, No. 334. Geneva, 1966. Pp. 21. Price 3s. 6d.

THEORIES ON THE immunological interactions between mother and foetus are still largely hypothetical and a better understanding of the mechanisms involved would be of great practical importance. This is far from being the only immunological puzzle encountered in the study of the reproductive processes. The effects of the blood group antigens on human fertility, the functions of and responses to the various antigens found in human sperm and seminal fluid, and the immunological properties of the human gonadotrophins are among the topics discussed in this report.

A fundamental problem in all immunological research is the purification of the antigens. During the last ten years, significant advances have been made in protein chemistry, and the development of such techniques as ion exchange chromatography on modified celluloses, gel filtration, free and starch-gel electrophoresis, and ultracentrifugation have proved particularly useful for the resolution of protein mixtures and the detection of impurities. The Group point out, however, that many different tests are still needed to establish the purity of the preparations obtained; these should include work on immunological techniques, such as double diffusion or immuno-electrophoresis, and, where possible, specific assays of biological activity. Further studies are recommended on the correlation of these criteria for the purity of antigens concerned in human reproduction.

Among other subjects listed under research needs are studies of the chemical structure of hormones concerned with reproduction; the production of antibodies to the gonadotrophins by the use of adjuvants and/or chemically modified gonadotrophins; and the use of immunological methods for assisting the detection of the time of ovulation. The characterization of the male antigens responsible for various immunological phenomena in males and for inducing circulating antibodies and reducing the fertility of immunized females, as well as the comparison of various methods of detecting spermatic antibodies in the sera of infertile males and females

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should also have a high priority. The treatment of patients with sperm auto-agglutinins and the risks involved in immunization with antigens concerned in reproduction need evaluation. Much research is still needed on the role of the blood group antigens in human reproduction and on the mechanisms and types of antibodies involved in foetal damage. The development of strains of animals of high immunological competence would facilitate many of these studies.

World Health Organization. *The Midwife in Maternity Care.* Report of a WHO Expert Committee. Technical Report Series, No. 331. 1965. Pp. 21. Price 3s. 6d.

THE EXPERT COMMITTEE here reviews the changes in the role of the midwife that have occurred during the last decade; her education and training are discussed with special reference to the minimum acceptable educational standard for candidates (which should not be less than that required for nurses and teachers), and the content of the curricula in countries with varying demands on the services of their midwives.

The position and training of the auxiliary midwife are also considered and the amount of authority and responsibility she can assume in different social and developmental contexts.

The traditional birth attendant is a person of importance in many lands; though she may lack education and formal training she can make a considerable contribution to maternity and child care in countries where there is a shortage of trained health personnel. It is imperative, however, that birth attendants should be registered and adequately supervised.

The Report ends with a recommendation that

The medical profession participate actively in supporting and making more effective the functions of the midwife. Changing patterns of maternity practice and hospitalization have rendered continuity of patient care difficult for the midwife and have often created frustrations in daily practice. The physician therefore must render prompt consultation support, maintain clear lines of communication on the maternity care team and give full recognition to the professional stature of his midwife

colleagues. Under certain circumstances, the wise and efficient utilization of midwives may help to meet problems arising from shortages of medical manpower.

World Health Organization. *Human Genetics and Public Health.* Second Report of the WHO Expert Committee on Human Genetics. Technical Report Series, No. 282. Geneva, 1964. Pp. 38. Price 5s.

THIS REPORT DISCUSSES the possible genetic consequences of certain current human activities; preventive and remedial measures for the control of genetic disabilities are indicated and the types of information needed for framing public health policies and conducting research are summarized.

Public health measures are now aimed mainly at modifying man's environment to make it more "healthy"; the Committee points out that genetic considerations add a new dimension to public health work—not only must the health and well-being of the community be considered but it must be remembered that the genetic endowment of future generations may be influenced. There are, for instance, many new chemical substances in use as drugs, pesticides, food additives, etc. that may be potentially mutagenic, although only a few of these agents have been recognized as such in certain species. This is obviously a field that calls for urgent research.

Much can be done to-day to remedy genetic defects by medical and surgical measures, but this means that many more handicapped persons survive to have children and pass on their defects to future generations. Genetic counselling should therefore be an integral part of medical care services. The Report considers eugenic measures, and stresses that popular education in genetic matters of public health importance might help to lighten the burden of genetically determined disability.

World Health Organization Technical Report Series publications are available by post from HM Stationery Office, PO Box 569, London, SE1.